Comparative study of EEG changes in neonatal seizure with three months of EEG in neonates referred to Booali hospital in Ardabil in 2016

Abstract

Background and objective: *The prevalence of neonatal seizure in term neonates is 3 per 1000 births, but in preterm newborns is 50 per 1000 births. Babies who have seizures are at high risk of death or neurological disabilities. Seizure is often the first sign of neonatal dysfunction and may be effective in long-term prognosis. EEG is the only available method for the diagnosis of seizures in neonates. Therefore, we compared EEG changes in the first EEG infant seizure with 3 months of age in newborns who referred to the Aristotelian hospital in Bouali Hospital.*

Methods*: The present study is a cross-sectional descriptive analytical method. In this study, neonates referred to Ardabil Booali Hospital, EEG, were screened for seizure and EEG was monitored 3 months later and the results were evaluated. Finally, all the data were entered into the SPSS-24 statistical analysis program and we analyzed the data according to the type of variables by statistical tests.*

Results*: In this study, 50 neonates with seizure were enrolled in this study, 70% of which had an average age of 14.92 days. 80% of infants were born at the time of term. The average birth weight was 3.208 kg. 6.2% of infants had abnormal CT scan findings, with an IVH infant and one baby showing brain edema. In this study, only 14% of neonates with abnormal brain strain were observed in the neonatal period and near the seizure. However, after 3 months, 40% of infants experienced abnormal brain stroke findings. Among the changes in EEG with age (P = 0.173), gestational age (P = 0.616), gender (P = 0.176), seizure (P = 0.145), neonatal hypoglycemia (P = 0.594), hypocalcaemia (P = 0.607) no statistic was found.*

Conclusion*: The results of this study showed that a small percentage of neonates had abnormal EEG in the neonate, but after 3 months of seizure, the larger percentage of them found abnormal EEG.*

Keywords*: Seizure, Neonatal, Electroencephalography*